

Matthew K. Kieseewetter
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Updated 4/16/18

Personal Data

Birth: December 24, 1982, Normal, IL

Professional

2013- Assistant Professor of Chemistry, University of Rhode Island, Kingston, RI
2010-2013 Ruth Kirschstein Postdoctoral Fellow, Massachusetts Institute of Technology, Cambridge, MA
Research Advisor: Prof. Timothy M. Swager

Education

2010 Ph.D., Chemistry, Stanford University, Stanford, CA
Research Advisor: Prof. Robert M. Waymouth
2004-2005 M.S. program, Chemistry, Illinois State University, Normal, IL
Research Advisor: Distinguished Prof. Cheryl D. Stevenson
2001-2004 B.S., Chemistry with Honors, Summa Cum Laude, Illinois State University, Normal, IL
Research Advisor: Distinguished Prof. Cheryl D. Stevenson

University of Rhode Island Teaching Experience

CHM 291, (majors) Organic Chemistry 1, Fall, 2013-2017
CHM 521, Advanced Organic Chemistry, S2014, S2016
CHM 226, Organic Chemistry Laboratory, S2017, S2018
CHM 492, Seminar in Chemistry, S2016, S2017, S2018
CHM 425 & 427, Intermediate Organic Chemistry (lecture and lab), F2014

Previous Teaching Experience

2007-2010 Nuclear Magnetic Resonance Laboratory Teaching Assistant
Trained students in NMR techniques and assisted in instrument maintenance
2006-2010 Graduate Student Mentor for Undergraduate Students (4 students)
2006 Teaching Assistant, course: 'Physical Chemistry for Biologists'
2005 Teaching Assistant, courses: "Physical Chemistry 1 and 2 laboratory component"
2002-2004 Lab Coordinator, course: 'General Chemistry for Non-Majors'

Fellowships, Awards, Honors

2017 Graduate Mentoring Award, URI College of Arts and Sciences
2017 Young Investigator Award, Polymeric Materials Science and Engineering Division of the American Chemical Society
2016 University of Rhode Island Early Career Research and Scholarship Excellence Award
2016 CAREER Award, NSF, University of Rhode Island
2011 Ruth L. Kirschstein Postdoctoral Fellowship, NIH, Massachusetts Institute of Technology
2005 NSF Graduate Research Fellowship, Stanford University
2004 Robert G. Bone Scholar, Illinois State University
highest academic honor afforded undergraduates at Illinois State

- 2004 American Chemical Society Heartland Chapter Student of the Year
 2001 Presidential Scholar, Illinois State University

Service

- 2015-pres "How to Make the Most of Graduate School", session leader, URI Chemistry
 2013-pres Peer reviewer for publications and funding agency
 >20 journal article reviews, including *Macromolecules* and *J. Am. Chem. Soc.*
Ad hoc reviewer for NSF proposals (~4 proposals)
Panelist for NSF/MSN (Chemistry) 2016
 2016-pres Work-Life Committee, URI
 2013-pres Advisor to Student Hosted Seminar Series, URI Chemistry
 2013-pres Graduate Student Admissions Committee member, URI Chemistry
 2014-2015 Art Commission member for the Beaupre Center
 2009-2010 Co-Chair, Distinguished Women in Science Speaker Selection Committee, Stanford
 2006-2010 Member, Distinguished Women in Science Speaker Selection Committee, Stanford
 2005-2010 Scientific Glass Blowing Instructor (*pro bono*), Stanford
 2009 Science is Elementary, Stanford, CA
 Conducted small group, hands-on experiments in local elementary schools

Publications

H-Index 14 – April 2018

33. (invited book chapter) Fastnacht, K.V.; Datta, P.P.; Kiesewetter, M.K. Bifunctional and Supramolecular Organocatalysts for Polymerization. In *Organic Catalysts for Polymerization*; Dove, A.P., Sardon, H., Naumann, S., Eds. RSC Books, submitted.
32. Pothupitiya, J.U.; Hewawasam, R.S.; Kiesewetter, M.K. Urea and Thiourea H-bond Donating Catalysts for Ring-opening Polymerization: Mechanistic Insights via (Non)Linear Free Energy Relationships. *Macromolecules*, **2018**, *51*, ASAP.
31. Pothupitiya, J.U.; Dharmaratne, N.U.; Jouaneh, T.M.M.; Fastnacht, K.V.; Coderre, D.N.; Kiesewetter, M.K. H-bonding Organocatalysts for the Living, Solvent-free Ring-Opening Polymerization of Lactones: Towards an All-Lactones, All-Conditions Approach *Macromolecules* **2017**, *50*, 8948–8954.
30. (invited submission) Datta, P.P.; Pothupitiya, J.U.; Kiesewetter, E.T.; Kiesewetter, M.K. Coupled Equilibria in H-bond Donating Ring-Opening Polymerization: The Effective Catalyst-Determined Shift of a Polymerization Equilibrium. *Eur. Polym. J.* **2017**, *95*, 671-677.
29. Dharmaratne, N.U.; Pothupitiya, J.U.; Bannin, T.J.; Kazakov, O.I.; Kiesewetter, M.K. Triclocarban: Commercial Antibacterial and Highly Effective H-bond Donating Catalyst for Ring-Opening Polymerization. *ACS Macro Lett.* **2017**, *6*, 421-425.
28. Fastnacht, K.V.; Spink, S.S.; Dharmaratne, N.U.; Pothupitiya, J.U.; Datta, P.P.; Kiesewetter, E.T.; Kiesewetter, M.K. Bis- and Trisurea H-bond Donors for Ring-opening Polymerization: Unprecedented Activity and Control from an Organocatalyst. *ACS Macro Lett.* **2016**, *5*, 982-986.
27. Datta, P.P.; Kiesewetter, M.K. Controlled Organocatalytic Ring-Opening Polymerization of ϵ -Thionocaprolactone. *Macromolecules* **2016**, *49*, 774-780.
26. Spink, S.S.; Kazakov, O.I.; Kiesewetter, E.T.; Kiesewetter M.K. Rate Accelerated Organocatalytic Ring-Opening Polymerization of L-Lactide via the Application of a Bis(thiourea) H-bond Donating Cocatalyst. *Macromolecules*, **2015**, *48*, 6127-6131.
25. Kazakov, O.I.; Kiesewetter M.K. Cocatalyst Binding Effects in Organocatalytic Ring-Opening Polymerization of L-Lactide. *Macromolecules*, **2015**, *48*, 6121-6126.

24. Bannin, T.J.; Kiesewetter, M.K. Poly(thioester) by Organocatalytic Ring-Opening Polymerization. *Macromolecules* **2015**, *48*, 5481-5486.
23. Kazakov, O. I.; Datta, P. P.; Isajani, M.; Kiesewetter, E. T.; Kiesewetter, M. K. Cooperative Hydrogen-bond Pairing in Organocatalytic Ring-Opening Polymerization. *Macromolecules* **2014**, *47*, 7463-7468.
22. Michaelis, V. K.; Ong, T. C.; Kiesewetter, M. K.; Frantz, D. K.; Walish, J. J.; Ravera, E.; Luchinat, C.; Swager, T. M.; Griffin, R. G. Topical Developments in High-Field Dynamic Nuclear Polarization. *Isr. J. Chem.* **2014**, *54*, 207-221.
21. Kiesewetter, M. K.; Michaelis, V. K.; Walish, J. J.; Griffin, R. G.; Swager, T. M. High Field Dynamic Nuclear Polarization NMR with Surfactant Sheltered Biradicals. *J. Phys. Chem. B.* **2014**, *118*, 1825-1830.
20. Geihea, E. I.; Cooley, C. B.; Simon, J. R.; Kiesewetter, M. K.; Edward, J. A.; Hickerson, R. P.; Kasparb, R. L.; Hedrick, J. L.; Waymouth, R. M.; Wender, P. A. Designed guanidinium-rich amphipathic oligocarbonate molecular transporters complex, deliver and release siRNA in cells. *Proc. Natl. Acad. Sci. USA* **2012**, *109*, 13171-13176.
19. Edward, J. A.; Kiesewetter, M. K.; Kim, H.; Flanagan, J. C. A.; Hedrick, J. L.; Waymouth, R. M. Organocatalytic Synthesis of Quinine-functionalized Poly(carbonate)s. *Biomacromolecules* **2012**, *13*, 2483-2489.
18. Kiesewetter, M. K.; Corzilius, B.; Smith, A. A.; Griffin, R. G.; Swager, T. M.; Dynamic Nuclear Polarization with a Water-soluble Rigid Biradical. *J. Am. Chem. Soc.* **2012**, *134*, 4537.
17. Kiesewetter, M. K.; Edward, J. A.; Kim, H.; Waymouth, R. M. Polycondensation of Butenediol: Synthesis of Telechelic 2-Butene-1,4-Diol Oligomers. *J. Am. Chem. Soc.* **2011**, *133*, 16390.
-Highlight Synfacts, 2012, 8, 0151.
16. Kiesewetter, M. K.; Waymouth, R. M. Kinetics of an Air- and Water-Stable Ruthenium(IV) Catalyst for the Deprotection of Allyl Alcohol in Water. *Organometallics* **2010**, *29*, 6051-6056.
15. Kiesewetter, M. K.; Shin, E.; Hedrick, J. L.; Waymouth, R. M. Organocatalysis: Opportunities and Challenges for Polymer Synthesis. *Macromolecules* **2010**, *43*, 2093-2107.
-In the top 10 viewed Macromolecules papers, 2010.
14. Kiesewetter, M. K.; Scholten, M. D.; Kirn, N.; Weber, R. L.; Hedrick, J. L.; Waymouth, R. M. Cyclic Guanidine Organic Catalysts: What is Magic About Triazabicyclodecene. *J. Org. Chem.* **2009**, *74*, 9490-9496.
13. Cooley, C. B.; Trantow, B. M.; Nederberg, F.; Kiesewetter, M. K.; Hedrick, J. L.; Waymouth, R. M.; Wender, P. A. Oligocarbonate Molecular Transporters: Oligomerization-Based Syntheses and Cell-Penetrating Studies. *J. Am. Chem. Soc.* **2009**, *131*, 16401-16403.
12. Coulembier, O.; Kiesewetter, M. K.; Mason, A.; Dubois, P.; Hedrick, J. L.; Waymouth, R. M. A Distinctive Organocatalytic Approach to Complex Macromolecular Architectures. *Angew. Chem. Int. Ed.* **2007**, *46*, 4719.
11. Kiesewetter, M. K.; Gard, M. N.; Reiter, R. C.; Stevenson, C. D. Reactions Involving Di-trans-[12]Annulenes. *J. Am. Chem. Soc.* **2006**, *128*, 15618.
10. Stevenson, C. D.; Kiesewetter, M. K.; Reiter, R. C.; Rathore R.; Chebny, V. J. Selective Intercalation of Cs⁺ in the 'V'-Shaped Cavity of a Bichromophoric Anion Radical: Cs⁺ Assisted π - σ - π -Delocalization of an Electron. *J. Phys. Chem. A.* **2006**, *110*, 9602.
9. Rathore R.; Abdelwahed, S. H.; Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. Intramolecular Electron Transfer in Cofacially π -Stacked Fluorenes: Evidence of Tunneling. *J. Phys. Chem. B.* **2006**, *110*, 1536.
8. Gard, M. N.; Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. The [12]annulynes. *J. Am. Chem. Soc.* **2005**, *127*, 16143.
7. Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. The Capture of sym-[8]Annuldiyne: The Cyclooctadienyne- η^2 -ynyl Potassium Zwitterionic Radical. *Org. Lett.* **2005**, *7*, 2623.

6. Stevenson, C. D.; Kiesewetter, M. K.; Reiter, R. C.; Rathore R.; Abdelwahed, S. H. Intramolecular C-H C-D Exchange via Electron Induced Bond Activation. *J. Am. Chem. Soc.* **2005**, *127*, 5282.
5. Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. The Second Cyclopropannulene: Cycloprop-[8]annulene. *J. Am. Chem. Soc.* **2005**, *127*, 1118.
4. Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. The Second Triannulenyne: Tri-[8]annulenyne. *J. Am. Chem. Soc.* **2004**, *126*, 8884.
- "Editor's Choice: Beyond Triphenylene" *Science* **2004**, *305*, 311.
3. Stevenson, C. D.; Kiesewetter, M. K.; Peters, S. J. Transient [8]Annulenyl Carbanion from the Anion Radical of Bromo-[8]annulene. *J. Phys. Chem. A* **2004**, *108*, 2278.
2. Peters, S. J.; Turk, M. R.; Kiesewetter, M. K.; Stevenson, C. D. Single-Electron Entrapment of [8]Annulyne, Biannulenylenes, and an Annulenoannulene. *J. Am. Chem. Soc.* **2003**, *125*, 11264.
1. Peters, S. J.; Turk, M. R.; Kiesewetter, M. K.; Reiter, R. C.; Stevenson, C. D. The Cyclooctatriene- η^2 -ynyl Potassium Zwitterionic Radical: Evidence for a Potassium Organometallic. *J. Am. Chem. Soc.* **2003**, *125*, 11212.

Patents and Disclosures

5. Pothupitiya, J.U.; Dharmaratne, N.U.; Jouaneh, T.M.M.; Fastnacht, K.V.; Coderre, D.N.; Kiesewetter, M.K. H-bonding Organocatalysts for the Living, Solvent-free Ring-Opening Polymerization of Lactones: Towards an All-Lactones, All-Conditions Approach *URI invention disclosure*. September 2017.
4. Fastnacht, K.V.; Spink, S.S.; Dharmaratne, N.U.; Pothupitiya, J.U.; Datta, P.P.; Kiesewetter, E.T.; Kiesewetter, M.K. Rate Accelerated H-bond Donating Catalysts for Ring-opening Polymerization. *URI invention disclosure*. June 2016
3. Datta, P. P.; Kiesewetter, E. T.; Kiesewetter M. K. Controlled Ring-Opening Polymerization for the Synthesis of Homopoly(thionocaprolactone) and Copolymers Provisional US Patent 62314776, March 2016.
2. Kiesewetter, M. K.; Edward, J. E.; Waymouth, R. M. Polycondensation of Butenediol. Provisional U.S. Patent filed
1. Cooley, C. B.; Trantow, B. M.; Nederberg, F.; Kiesewetter, M. K.; Hedrick, J. L.; Waymouth, R. M.; Wender, P. A. Oligocarbonate Molecular Transporters. U.S. Patent **7,939,621**, May 10, 2011.

Invited Seminars

- 2017 Towards the Convergence of High Rate and Selectivity in Organocatalytic Ring-opening Polymerization *University of Rhode Island, Chemistry*. October 30.
- 2017 Towards the Convergence of High Rate and Selectivity in Organocatalytic Ring-opening Polymerization *Stony Brook University*. April 27.
- 2017 Towards the Convergence of Rate and Selectivity in Organocatalytic Ring-opening Polymerization *ACS National Meeting*, San Francisco. April 3. Available online (login required): <https://presentations.acs.org/common/media-player.aspx/Spring2017/PMSE/PMSE013c/2651024>
- 2017 Towards the Convergence of Rate and Selectivity in Organocatalytic Ring-opening Polymerization *UCLA, Chemistry*. March 9.
- 2016 The Power of Mechanism in Rate Enhanced Organocatalytic Polymerization *URI, College of Engineering*. Oct 6.
- 2016 The Power of Mechanism in Rate Enhanced Organocatalytic Polymerization *University of Connecticut, Institute of Materials Science*. Sept 9.
- 2016 The Power of Mechanism: Rate Enhanced Organocatalytic Polymerization *Bridgewater State University, Bridgewater, MA*. March 4.

- 2014 Organocatalysis for Polymer Synthesis: New Methods Towards New Materials *URI College of Pharmacy*, Kingston, RI
- 2014 Organocatalysis for Polymer Synthesis: New Methods Towards New Materials *URI College of Pharmacy*, Kingston, RI
- 2013 Organocatalysis for Polymer Synthesis: New Routes to Old Materials *MAC Seminar Series*: URI Bay Campus, Kingston RI

General Presentations

- 2017 Dharmaratne, N.U.; Pothupitiya, J.U.; Bannin, T.J.; Kazakov, O.I.; Kiesewetter, M.K. Commercially available novel H-bonding catalyst for Ring opening polymerization of Lactones. *254th American Chemical Society National Meeting & Exposition*, Washington DC, August 21-22 (poster)
- 2017 Coderre, D.N.; Fastnacht, K.V.; Kiesewetter, M.K. Mechanistic Investigations of Versatile H-Bonding Organic Catalysts for Biocompatible Polymers. *RI SURF Conference*, University of Rhode Island, RI, July 28 (poster)
- 2017 Dharmaratne, N.U.; Fastnacht, K.V.; Pothupitiya, J.U.; Spink, S.S.; Kiesewetter, E.T.; Kiesewetter, M.K. Towards the Convergence of Rate and Selectivity in Organocatalytic Ring-opening Polymerization. *Gordon Research Conferences Polymers*, Mount Holyoke College, MA, June 15 (poster)
- 2017 Kazakov, O.I.; Kiesewetter, M.K. Alkylamine Bases in Organocatalytic Ring-Opening Polymerization of Cyclic Esters. *Gordon Research Conferences Polymers*, Mount Holyoke College, MA, June 15 (poster)
- 2017 Datta, P.P.; Kiesewetter, M.K. Control of Reaction Thermodynamics by H-Bonding Catalysts. *University of Rhode Island Graduate Conference*, Kingston, RI, April 8 (poster)
- 2016 Datta, P.P.; Kiesewetter, M.K. Ring-opening polymerization of ϵ -thionocaprolactone. *ACS National Meeting*, Philadelphia, PA. Aug 23. (poster)
- 2016 Fastnacht, K.; Spink, S.; Datta, P.; Kiesewetter, E.T.; Kiesewetter, M.K. Unprecedented activity and control in organocatalysis: Multi-H bond donors. *ACS National Meeting*, Philadelphia, PA. Aug 23. (poster)
- 2016 Kazakov, O.I.; Kiesewetter, M.K. Alkylamine bases in organocatalytic ring-opening polymerization of cyclic ester. *ACS National Meeting*, Philadelphia, PA. Aug 23. (poster)
- 2016 Fastnacht, K.; Kiesewetter, M.K. Coalescence of activity and control in H-bond mediated organocatalysis. *ACS National Meeting*, Philadelphia, PA. Aug 23. (poster)
- 2016 Datta, P.P.; Kiesewetter, M.K. Organocatalyzed Ring-Opening Polymerization of ϵ -Thionocaprolactone. *ACS Middle Atlantic Regional Meeting*, Riverdale, NY, June 11 (poster)
- 2015 Spink, S.S.; Kazakov, O.I.; Datta, P.P.; Kiesewetter, E.T.; Kiesewetter, M.K. Cooperative hydrogen-bond pairing in organocatalytic Ring-opening polymerization. *ACS National Meeting*, Boston, MA. Aug 20.
- 2015 Kazakov, O.I.; Kiesewetter, M.K. Understanding organocatalytic ring opening polymerization *ACS National Meeting*, Boston, MA. Aug 20.
- 2015 Bannin, T.J. and Kiesewetter, M. K. Organocatalytic ring-opening polymerization of a cyclic thioester from thiol initiators. *ACS National Meeting*, Boston, MA. Aug 18 (poster)
- 2015 Datta, P.P. and Kiesewetter, M. K. Ring-opening polymerization of thionolactone. *ACS National Meeting*, Boston, MA. Aug 18 (poster)
- 2015 Datta, P.P.; Kiesewetter, M. K. Ring-Opening Polymerization of ϵ -Thionocaprolactone. *URI Graduate Conference*, Kingston, RI. April 18 (poster)
- 2015 Kazakov, O. I.; Kiesewetter, M. K. Chemical Activity of Alkyl Amines in Organocatalytic Ring-Opening Polymerization *URI Graduate Students Conference*, URI, Kingston, RI. April 18 (poster)

- 2014 Bannin, T.J. and Kiesewetter, M. K. Organocatalyst-mediated Ring-opening Polymerization of a Thiolactone *ACS National Meeting*, San Francisco, CA (poster)
- 2011 Kiesewetter, M. K.; Ong, T.-C.; Griffin, R. E.; Swager, T. M. Polymer Materials for DNP Applications. *Gordon Research Conferences: Polymers*, South Hadley, MA (poster)
- 2010 Kiesewetter, M. K.; Cooley, C. B.; Trantow, B.; Nederberg, F.; Hedrick, J. L.; Waymouth, R. M.; Wender, P. A. Organocatalytic Ring-opening Polymerization of Functionalized Carbonate Monomers for Drug Delivery Applications *ACS National Meeting*, San Francisco, CA.
- 2009 Kiesewetter, M. K.; Scholten, M. D.; Edward, J.; Kirn, N.; Weber, R. L.; Waymouth, R. M. Organocatalytic Formation of Amides from Esters and Amines: Kinetic, Mechanistic and Reagent Scope Analysis *Center on Polymer Interfaces and Macromolecular Assemblies*, San Jose, CA. (poster)
- 2009 Waymouth, R. M.; Hedrick, J. L.; Kiesewetter, M. K.; Jeong, W.; Shin, E. Organic catalysts for controlled polymerization reactions. Abstracts of Papers, *237th ACS National Meeting*, Salt Lake City, UT.
- 2008 Gipson, R.; Thomaszewski, B.; Platz, G.; Kiesewetter, M.; Hedrick, J.; Waymouth, R. Development of New Carbonate Monomers for Biodegradable, Thermoresponsive Polymers *Center on Polymer Interfaces and Macromolecular Assemblies*, San Jose, CA. (poster)
- 2007 Waymouth, R. M.; Hedrick, J. L.; Nederberg, F.; Pratt, R. C.; Lohmeijer, B. G. G.; Culkin, D. A.; Coulembier, O.; Kamber, N. E.; Jeong, W.; Kiesewetter, M. K.; Shin, E. Polyesters from renewable resources: Organo-catalytic strategies for controlled polymerization reactions. *Polymer Preprints ACS, Division of Polymer Chemistry*, 48, 812-813.
- 2004 Kiesewetter, M. K.; Stevenson, C. D.; Reiter, R. Cyclopropanulenes. *36th Great Lakes Regional Meeting of the ACS*, Peoria, IL.

Faculty Mentor (URI)

Graduate

2017-pres	Thomas Wright, Ph.D. candidate
2016-pres	Rukshika Hewawasam (F), Ph.D. candidate
2016-pres	Inush Kalana, Ph.D. candidate
2015-pres	Jinal Pothupitiya, Ph.D. candidate
2015-pres	Nayanthara Dharmaratne (F), Ph.D. candidate
2015-pres	Kurt V. Fastnacht, Ph.D. candidate
2013-2018	Partha P. Datta, Ph.D. candidate
2013-2018	Oleg I. Kazakov, Ph.D. candidate
2013-2018	Timothy J. Bannin, Ph.D. candidate

Undergraduate

2018-pres	Sebastian Rueda
2017-pres	Terra Jouane, Pharm. Sci.
2017-2018	Danielle Coderre, Biochemistry
2016	Nicholas LeTarte
2014-2017	Samuel Spink, Biomedical Engineering major
	-2016 Goldwater Scholar
2015-2016	Katie L. Favino
2015	Helice Gillis
2015	Jean Bray
2014	Nidhi Mehta (F)
2013-2014	Courtney Buratczuk, B.A. Chemistry 2016

2013-2014 Meghedi Isajani (F), B.S. Chemistry 2014

Graduate Committee Member (URI)

2018	Jonathan Nichols (Dwyer)
2017	Kaveendi Chandrasiri (Lucht)
2016	Daniel Jones (Levine)
2016	Kevin Colizza (Oxley/Smith)
2016	Devon Swanson, Ph.D. (Oxley/Smith)
2015	Matthew Blake, M.S. (Pharmacy)
2015	Dan Niesen, Ph.D. Pharmacy
2015	Joseph Brown, Ph.D. (DeBoef)
2015	John Sirois, Ph.D. (DeBoef)
2015	Bhaskar Radaram, Ph.D. (Levine)
2015	Nicole Serio, Ph.D. (Levine)
2014	Sauradip Chaudhuri, Ph.D. (Levine)

Funding

Total: \$918,293

5. 3/15/16 – current **NSF Division of Chemistry Project # CHE-1554830**; \$668,293 total “CAREER: Stereoselective and Rate-Enhanced H-bonding Catalysts in Ring-Opening Polymerization Transformations”
4. 9/1/15 **NSF MRI Project #: 1531963**; \$202,993 direct; “MRI: Acquisition of a 400 MHz NMR Spectrometer for Chemistry and Chemical Forensics” (**co-PI**)
3. 6/10/14 – 4/30/16 **RI-INBRE (NIH) Early Career Development Awards Project #: 2P20GM103430**; \$100,000 direct; “Synthetic Polymers Derived from Nature: Materials for Disease Treatment via Organocatalytic Ring-Opening Polymerization”
2. 3/1/14 – 8/31/16 **ACS PRF New Doctoral Investigator PRF# 53824-DNI4**; \$100,000; “Electrostatically Tethered Catalysts for the Rate Acceleration of H-bond Mediated Transformations”
1. 7/1/13 – 4/30/14 **RI-INBRE (NIH) Research Proposal Development Awards; Project #: 8 P20 GM103430-12**; \$50,000 direct; “Fragile Polymer Backbones for Disease Treatment Materials: Organocatalytic Ring-Opening Polymerization of Thioesters”

Pending Funding and Awards

1. 9/1/18-8/31/21 **NSF Division of Materials Research** \$398,468 total “Synthesis and Chemistry of Polythiolactones and Polythionolactones” w/ co-PI Elizabeth Kiesewetter (URI)

Previous Proposals

- 2017 **NSF-DMR** “Synthesis and Characterization of Polythionolactone Homopolymers and Copolymers” - collaborative w/Cavicchi (Akron)
- 2016 **NSF-MSN** “Organocatalytic Ring-opening Polymerization of Thio- and Thionolactones” – retracted upon accepting CAREER
- 2016 **Beckman Foundation** “A New Role for H-bonding ‘Catalysts’ in Synthetic Chemistry” – advanced to second round, full proposal
- 2015 **NSF-CAREER** “CAREER: Mechanistic Studies of H-bonding Catalysts for Ring-opening Polymerization as a Guide to New Systems and New Reactivity”

- 2015 **RI Foundation** "Organocatalytic Ring-opening Polymerization for Cancer Treatment Applications" - preproposal
- 2015 **Cottrell Scholar** "Stereoselective and Rate-Enhanced H-bonding Catalysts in Ring-Opening Polymerization"